

To: JAMES D WALKER[jameswalker5@msn.com]
From: Rumrill, Nancy
Sent: Wed 3/1/2017 9:39:36 PM
Subject: RE: Question regarding step rate testing

It's just the description of and sources used for the groundwater velocity and travel time calculations.

Thanks, Nancy



United States Environmental Protection Agency

Nancy Rumrill (rumrill.nancy@epa.gov)

Drinking Water Protection Section (WTR-3-2)

US EPA, Region IX

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Phone (415) 972-3293

From: JAMES D WALKER [mailto:jameswalker5@msn.com]
Sent: Wednesday, March 01, 2017 1:29 PM
To: Rumrill, Nancy <Rumrill.Nancy@epa.gov>
Subject: RE: Question regarding step rate testing

Nancy,

I found my backup notes on the groundwater velocity and travel time calculations and will draft comments on the basis of those notes and sources. I am not sure what “detailed current source analysis” entails and what else you need from me this week.

Jim

From: Rumrill, Nancy
Sent: Wednesday, March 1, 2017 2:13 PM
To: JAMES D WALKER
Subject: RE: Question regarding step rate testing

Ok, thanks. How is it going in considering the work for Florence Copper? We need the AE write up for the SWVP petition as quickly as possible. As indicated on the attorney notes, this would involve the detailed current source analysis. We can talk at 3:30 pm, and I invited David Albright to our call.

Thanks, Nancy



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From: JAMES D WALKER [<mailto:jameswalker5@msn.com>]
Sent: Wednesday, March 01, 2017 1:00 PM
To: Rumrill, Nancy <Rumrill.Nancy@epa.gov>
Subject: RE: Question regarding step rate testing

Nancy,

Ex. 5 - Deliberative Process

Jim

From: [Rumrill, Nancy](#)
Sent: Wednesday, March 1, 2017 11:40 AM
To: [JAMES D WALKER](#)
Cc: [Rao, Kate](#)
Subject: FW: Question regarding step rate testing

Hi Jim,

Ex. 5 - Deliberative Process

Thanks, Nancy



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From: Doug Bartlett [<mailto:DBartlett@clearcreekassociates.com>]

Sent: Wednesday, March 01, 2017 7:40 AM

To: Rumrill, Nancy <Rumrill.Nancy@epa.gov>

Cc: Rebecca Sawyer <rsawyer@excelsiormining.com>; Alison Jones
<ajones@clearcreekassociates.com>; Roland Goodgame <rgoodgame@excelsiormining.com>

Subject: Question regarding step rate testing

Nancy – in our meeting last week, you may recall we had a discussion about step rate testing to verify the fracture gradient proposed for the Gunnison project. I have attached two papers that I found online from EPA regarding the methodology for step rate testing. Are there any other papers that I should be reviewing? The step rate methodology that is described seems to match with what Excelsior did to obtain the fracture gradient value proposed in the UIC application.

Any guidance you can give me on this would be greatly appreciated!

Thank you,

Doug Bartlett

R. Douglas Bartlett, RG, CHG

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